

ABSTRACT

A new method of forming a composite etching stop layer is described. An etching stop layer is deposited on a substrate wherein the etching stop layer is selected from the group consisting of: silicon carbide, silicon nitride, SiCN, SiOC, and SiOCN. A TEOS oxide layer is deposited by plasma-enhanced chemical vapor deposition overlying the etching stop layer. The composite etching stop layer has improved moisture resistance, better etching selectivity, and lower dielectric constant than other etching stop layers.